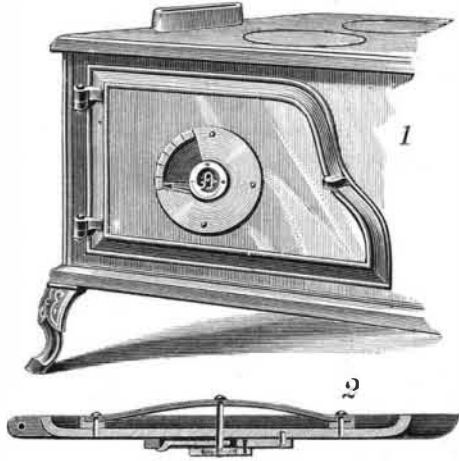


AN IMPROVED OVEN THERMOMETER.

A device to be applied to the oven doors of cooking stoves, etc., to indicate the exact heat of the oven for baking purposes, and also applicable to other stoves, hot air furnaces, and ranges, is illustrated herewith, and has been patented by Camilla Julier and James O. Robinson, of Hanging Rock, Ohio. Upon the inside



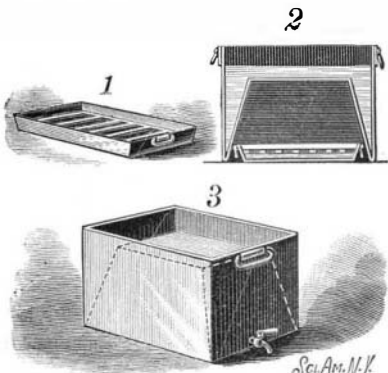
JULIER & ROBINSON'S OVEN THERMOMETER.

of the door is attached a hammered brass or other strip of more expansible metal than the cast iron of which the door is made, this strip being attached to the door at its ends, as shown in the sectional view. Secured centrally to the strip is a stem fitted to slide through an aperture in the door, and having an inclined projection or nose on its outer end. In engagement with this nose is an index pivoted to the door. The index being extended to travel over a graduated dial, and thus indicate the degrees of heat within the oven.

For further information relative to this invention address Messrs. Henry Miller & Co., Hanging Rock, Ohio.

AN IMPROVED BAKE PAN.

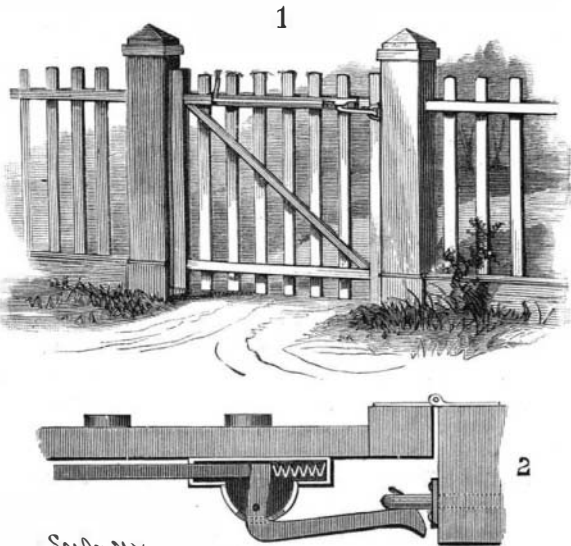
A pan especially intended for use in baking or roasting meats, fowls, etc., and designed to obviate the necessity of boiling before baking, thus retaining all the juices and flavors of the articles being cooked, is illustrated herewith, and has been patented by Miss Bettie H. Bicknell, of Loudon, Tenn. Fig. 1 shows the pan, and Fig. 2 is a sectional view of the pan and its cover in position for use, while Fig. 3 is a perspective view of the cover. The pan is of ordinary construction, and supports a rack, beneath which water may be placed. The cover is a deep inverted pan or box, preferably tapered toward its upper part, an outside band or upright box forming, with the inner portion, a surrounding water space, as shown in the sectional view. In this way the article to be cooked in the pan is practically inclosed by water. In one end of this water-holding cover is a faucet, for the purpose of drawing off the hot water when the pan is to be removed from the stove, thus making the pan lighter and easier to be handled, and lessening the danger of scalding the user. For further information relative to this invention address Messrs. Chambers & McQueen, Loudon, Tenn.



MISS BICKNELL'S BAKE PAN.

AN IMPROVED GATE FASTENING.

The illustration herewith represents a gate fastening designed to fasten the gate automatically as it is



COFFEY'S GATE FASTENING.

closed, and which, when the latch and catch are once properly adjusted, cannot get out of position so long as the gate remains on its hinges, no matter how much the gate sags or the weather affects the posts. It has been patented by Mr. Burton B. Coffey, of St. Joseph, Mo. The fastening device is usually secured on the inner side against the upper rail of the gate, Fig. 2 being a plan view thereof. It consists of a lever pivoted in a slot in a housing, the short arm of the lever extending into the housing from an elbow, while on the long arm of the lever is a catch adapted to engage a loop or staple on the post to which the gate is hinged. A spring in the housing presses against the short arm of the lever, tending to keep the catch in engagement with the staple. A short hand lever is pivotally connected with the upper rail near the outer end of the gate, the lower end of this lever being connected to a rod extending into the housing, in position to engage the short arm of the lever pivoted therein, and press it back to release the catch. Thus the gate may be released from the fastening by a movement of the hand lever, and on closing the gate it is automatically fastened by the catch coming into engagement with the staple.

Hydrazine Hydrate.

A substance which Nature terms one of the most remarkable liquids yet discovered, and which possesses properties that may render it serviceable in photographic processes, has recently been prepared by Drs. Curtius and Jay, of the University of Erlangen. Some two years ago the former investigator succeeded in isolating gaseous amidogen; but the free gas possesses such an affinity for water that its isolation in quantity seems impossible, water being of necessity a secondary product in all known reactions for producing this gas. But a pure hydrate of the substance—described as hydrazine hydrate—has been produced, and it is this liquid which possesses the remarkable properties alluded to. Says the *British Journal*: It is, of course, early to prognosticate as to the part it may play in the chemistry of the future, but the property we desire to draw attention to is its reducing power, which is evidently far beyond that of any of the substances at present utilized for photographic purposes—pyrogallol, hydroquinone, iron salts, etc. Hydrazine hydrate is probably the most powerful reducing agent known. The most easily reducible metals are precipitated by it from their solutions in the cold. Silver separates from strong solutions in fine compact crystalline masses, and from very dilute solutions in the form of perfect mirrors of great beauty. Neutral platinic chloride solutions are also similarly reduced, while acid solutions of iron, copper, and platinum are reduced from the ferric to the ferrous state, and so on. It remains to be seen if it can be utilized as a developer. In its concentrated form it acts on glass, cork, etc., so there are certainly practical difficulties in the way; whether they would be overcome by dilution, we are not able to say.

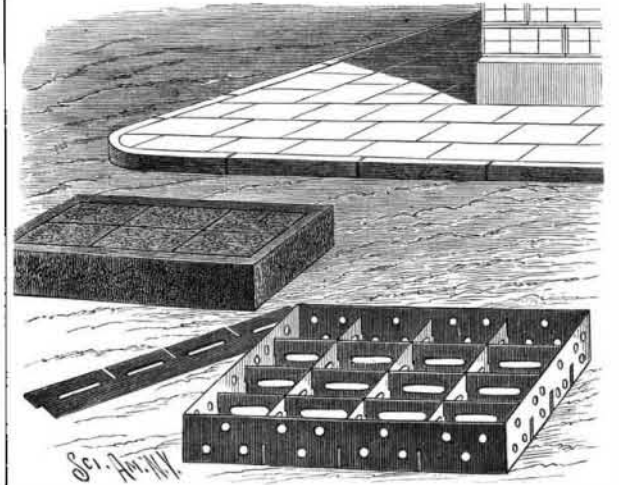
AN IMPROVED LIGHTNING CONDUCTOR FOR FENCES.

Wire fences are often a source of danger to cattle during electric storms, the wires being usually practically insulated from the ground, and liable to discharge a current through the body of an animal standing close to the fence. To overcome this danger is the object of the invention herewith illustrated, which has been patented by Mr. Fremont E. Wood, of Yucca, Arizona Ter. For this purpose a grounded rod, to the upper section of which is connected a point, is inserted at such intervals as may be deemed necessary in the fence, such rods being connected with the fence wires by an arrester of novel construction, shown in the sectional view. Its lower portion consists of a clamping socket, with a central longitudinal groove, upon either side of which are ribs, and in connection therewith is employed an upper socket section, the two sections having centrally apertured and internally threaded bosses to engage the grounded rod. A binding wire is bound within the threads of the rod and about the fence wire, the binding wire being so bound that the sockets may be moved to cross the fence wire diagonally. The socket sections are brought together and united by screws, the binding wire being forced hard against the fence wires, and the grounded rods by set screws. In applying this arrester, great care should be taken to secure proper connection between all the parts.

AN IMPROVED BUILDING BLOCK.

A substitute for bricks, natural and artificial stone, etc., for houses, bridges, street pavements, and a great variety of works of masonry, with the method of making such substitute, form the subject of a patent issued to Mr. B. W. Belden, of St. Louis, Mo. In the making of these building blocks, a portable frame or mould is used, as shown in the illustration, such mould having any desired number of sections or compartments, formed by partitions, provided with apertures so arranged as to establish free communication between the various divisions of the frame. This frame may be of wood, metal, straw board, or other suitable substance, but is preferably of non-corrosive metal, as galvanized iron, and the whole structure, including its

outer shell, ribs, and partitions, may be of any desired shape and size. This frame is then filled with hydraulic cement, paper pulp, clay, or other suitable plastic composition, which, hardening in the frame, forms a solid concrete mass, in which the framework is thoroughly embedded. This building block is de-



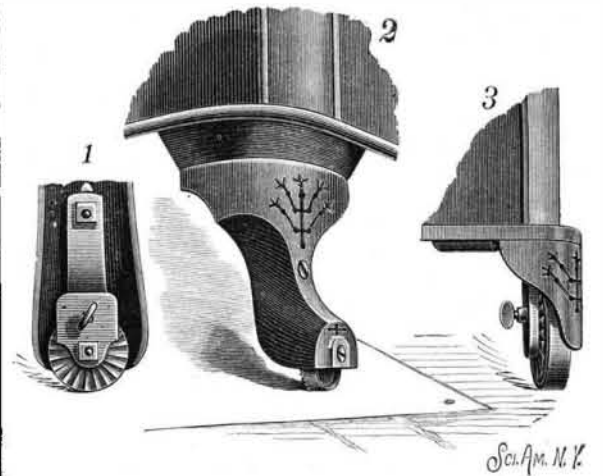
BELDEN'S FRAME FOR BUILDING BLOCKS, ETC.

signed to afford superior strength, durability, solidity, facility of making and operating, beauty of finish and economy in cost.

For further particulars with reference to this invention address the Solidura Building and Paving Company, No. 6 North Second Street, St. Louis, Mo.

AN IMPROVED ROLLER STOVE FOOT.

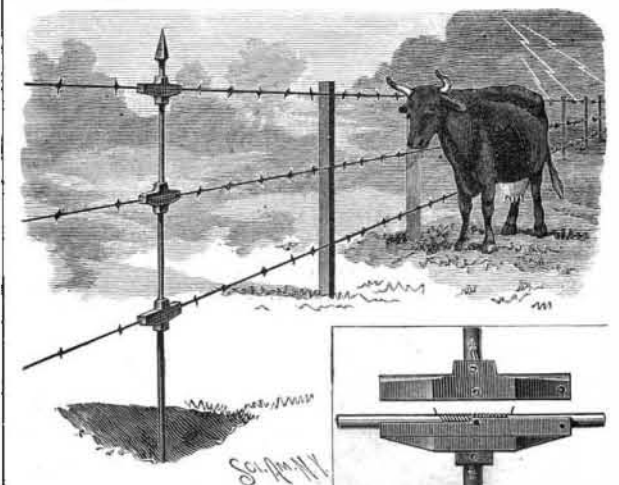
A stove foot designed to promote the convenience of housekeepers when taking up and putting down carpets, oilcloths, etc., is shown herewith, and has been patented by Mr. J. Fowler, Alliance, Ohio. The stove leg is made with two downwardly extending arms, in which a roller works. This roller has on one



FOWLER'S STOVE FOOT.

or both faces a number of teeth, and a thumbscrew is screwed into the upper portion of the leg, adapted to engage the teeth on the roller, to prevent it from turning or allowing the stove to move from its position when the grate is being shaken. The upper portion of the leg is cast to form an arm, by means of which it may be secured to the bottom of the stove, and the improvement is applicable to long or short legs. With this device, a piece of zinc may be readily placed under a stove, and the stove can be easily moved when desired, by loosening the thumbscrews, which are screwed tight in ordinary use.

The Harlem Railroad have ordered of the John Stevenson Company thirty cars for the Julien storage battery system, to be used on the Fourth and Madison Avenue line in this city. These cars are to embrace a number of new features, and promise to be both elegant and comfortable. The Harlem Railroad Company have already a few electric cars in use on the same thoroughfare.



WOOD'S LIGHTNING CONDUCTOR FOR WIRE FENCES.